REMARKS

This Response is in response to the Office Action mailed on March 30, 2010. Claims 1, 3-5 and 30 are pending.

Examiner Interview:

Applicants would like to thank Examiner Angela J. Martin for conducting a personal interview with Applicants' representatives, Mr. Douglas P. Mueller and Mr. Yasuhide Ono, on July 14, 2010. In the interview, Applicants' representatives noted differences between the Carlson reference the features of claim 1. The issues discussed in the interview are reflected in the arguments below.

§102 Rejections:

Claims 1, 3 and 4 are rejected as being anticipated by Carlson (US Patent No. 7,081,142). This rejection is traversed.

Claim 1 is directed to an energy device that recites, among other features, a winding body in which a band-shaped laminate having a flexible elongated substrate, a negative collector, a negative active material, a solid electrolyte, a positive active material, and a positive collector in this order is wound in a plate shape with the flexible elongated substrate placed inside. Claim 1 requires that the adjacent layers of substrate, negative collector, negative active material, solid electrolyte, positive active material and positively collector respectively be in direct contact with each other. Thus, in the product of claim 1, a layered structure having solid electrolyte sandwiched by negative and positive active materials, in turn sandwiched by negative and positive collector materials, is provided on a flexible substrate with the negative collector material adjacent the substrate. An advantage of this construction is that the relatively brittle layers are disposed on the outer side of each turn of the winding. As discussed on page 6 of the present specification, a crack in an upper portion of the laminate does not tend to propagate to a lower portion of the laminate, but a crack in the lower portion does tend to propagate to an upper portion and thus can cause short circuiting. The present invention reduces the chances of cracks being produced in the lower portion of the laminate

Carlson does not disclose or suggest these features. The rejection refers to the embodiment of Figs. 9-11 of the reference. The disclosure at cols. 12-13, cols. 28-30 and cols. 40-46 is useful in understanding this embodiment of the reference. Initially, Applicants note that the substrate 2 seen in some of the earlier figures in the reference is a temporary substrate used for forming intermediate layer structures that are combined later, and is not present in the final product. This is clear from the absence of the substrate 2 in Figs. 9-11. Thus, substrate 2 cannot be characterized as the flexible substrate of the claim 1 in comparing the reference to claim 1.

Carlson's multilayer stack is formed by combining two intermediate laminates. The final product is composed of: a first protective coating layer 101; a microporous separator layer 102 that contains electrolyte; a cathode active layer 201 (this layer may include the edge insulator 301); a cathode current collector layer (401) (and optionally another adjacent cathode current collector layer 402 in a case where both intermediate laminates have a cathode current collector layer); an electrode insulating layer (501), an anode current collector layer (601); and an anode active layer (701) in this order. The first protective coating layer 101 is the innermost layer (see column 12, line 41-column 13, line 8 and Figures 9-11 of Carlson). Fig. 3 of Carlson seems to suggest that a second protective coating layer 103 could be provided between the separator layer 102 and the cathode active layer 201. The presence or absence of the layer 103 is not relevant to the distinctions between the reference and claim 1 discussed below.

In contrast to claim 1's requirement that the negative collector layer be adjacent the substrate and the positive collector layer be outermost, the reference provides the separator layer (which would include electrolyte) adjacent the first protective coating layer, followed by cathode layers, with the anode active layer 701 on the outside. Thus, the reference would require a complete reordering of its layers to meet the requirements of claim 1; note that even an inversion of the layers in Carlson would not provide the structure required by claim 1 since in that case the separator would be outermost and the anode active layer 701, not the anode collector layer, would be adjacent the protective coating layer 101. Nothing in the reference discloses or even suggests the reordering of layers that would be necessary to meet the structure of claim 1.

For at least these reasons claim 1 is not suggested by Carlson and should be allowed. Claims 3 and 4 depend from claim 1 and should be allowed for at least the same reasons.

§103 Rejections:

Claims 5 and 30 are rejected as being unpatentable over Carlson. This rejection is traversed. Claims 5 and 30 depend from claim 1 and should be allowed for at least the same reasons discussed above. Applicants do not concede the correctness of this rejection.

Applicants respectfully assert that the pending claims are in condition for allowance. If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicants' primary attorney-of record, Douglas P. Mueller (Reg. No. 30,300), at (612) 455-3804.

Respectfully submitted,

HAMRE, SCHUMANN, MUELLER & LARSON, P.C.
P.O. Box 2902
Minneapolis, MN 55402-0902
(612) 455-3800

Dated: July 30, 2010

By: _____
Douglas P. Mueller
Reg. No. 30,300
DPM/ahk